ABSTRACT OF THE DISCLOSURE

Methods for enhancing the therapeutic and adjuvant use of IL-12 by reducing unwanted transient immunosuppression caused by IL-12 or by high doses thereof involve co-administering IL-12 with an effective amount of an agent that inhibits or neutralizes nitric oxide (NO) *in vivo*. Enhanced vaccine therapy involves co-administering the IL-12 adjuvant, a selected vaccine antigen and the NO inhibiting/neutralizing agent. Additionally, the toxicity of IL-12 treatment may be reduced by co-administering IL-12 with an effective amount of the NO inhibiting or neutralizing agent. A therapeutic composition characterized by reduced toxicity in mammals contains IL-12, preferably a low dose thereof, and an NO inhibiting or neutralizing agent in a pharmaceutically acceptable carrier. A vaccine composition contains an effective adjuvanting amount of IL-12, an effective amount of an NO inhibiting or neutralizing agent, and an effective protective amount of a vaccine antigen in a pharmaceutically acceptable carrier.

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